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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/038,968	12/31/2001	Rajendran S. Michael	24975A	2158
22889	7590	09/08/2004	EXAMINER	
OWENS CORNING			BOYD, JENNIFER A	
2790 COLUMBUS ROAD			ART UNIT	
GRANVILLE, OH 43023			PAPER NUMBER	

1771

DATE MAILED: 09/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/038,968

Applicant(s)

MICHAEL ET AL.

Examiner

Jennifer A Boyd

Art Unit

1771

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 5-14 is/are pending in the application.
- 4a) Of the above claim(s) 10-14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 5-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Art Unit: 1771

DETAILED ACTION

Response to Amendment

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on June 17, 2004 has been entered. The Applicant's Amendments and Accompanying Remarks, filed June 17, 2004, have been entered and have been carefully considered. Claims 1, 5 and 7 – 9 are amended, claims 10 – 14 are withdrawn, claims 2 – 4 are cancelled and claims 1 and 5 – 9 are pending. In view of Applicant's amendments requiring a heat stabilizer, the Examiner has withdrawn all previously set forth rejections as detailed in paragraphs 3 – 5 in the Office Action dated March 26, 2004. However, after an updated search, additional prior art has been found which renders the invention as currently claimed unpatentable.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 and 5 – 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tilton et al. (US 2003/0008581 A1) in view of Bae et al. (US 5,034,443).

Art Unit: 1771

Tilton et al. is directed to a multidensity liner/insulator useful for applications such as exterior body panels of automobiles (Abstract).

As to claim 1, Tilton teaches a liner/insulator comprising a *pad* 12 of fibrous material having a lofty, acoustically *insulating portion* 14 and a relatively higher density *skin* 16 along the first face (page 3, [0034] and see Figure 4). The Examiner equates the insulating portion to Applicant's "insulating layer" and the *skin* 16 to Applicant's "structural layer". The insulating portion, or "insulation layer", provides the "lofted area for insulating against the transmission of sound" and the skin, or "structural layer", provides the "compacted area for structurally enhancing the liner". Tilton teaches that the *first facing layer*, or "second structural layer", can comprise glass mats, polymer mats and blended mats (page 4, [0042]). It should be noted that blended mats would imply a mat made of glass fibers and polymer fibers and that typically mats, or nonwoven materials, contain short length fibers, equated to Applicant's "chopped fibers".

As to claims 5 and 6, Tilton teaches that the *insulating portion* 14, or Applicant's "insulating layer", which is a part of the *pad* 12, comprises polyester, polyethylene, polypropylene, polyethylene terephthalate, glass fibers, natural fibers and any mixtures thereof (page 4, [0044]) in the form of a lofty, insulating portion. It should be noted that the Examiner considers this portion to be classified as a non-woven material because, according to *Complete Textile Glossary*, by Celanese Acetate, a non-woven is defined as an assembly of textile fibers held together by mechanical interlocking in a random web or mat or by fusing of the fibers (in the case of thermoplastic fibers).

As to claim 7, Tilton teaches that the composite can further comprise a *second facing layer* 26 covers the *opposite face* 28 of the *pad* 12 (page 3, [0039] and see Figure 4). The

Art Unit: 1771

Examiner equates the *second facing layer* 26 to Applicant's "first lofted area" and the Examiner equates the *insulating portion* 14 to the "second lofted area". The second facing layer 26, or "first lofted area", has a thickness of 0.25 – 7.5 mm for the metallic foil in the layer (page 3, [0040]) and the additional thickness created by the addition of a reinforcing non-woven material is not disclosed. It is reasonable to assume that the *second facing layer* 26, or "first lofted area", has a thickness greater than the range of 0.25 – 7.5 mm. The thickness of the "first lofted area" is equated to Applicant's "first thickness of a first dimension". The thickness of the *insulating portion* 14, or "second lofted area", is not directly disclosed. However, by examining Figure 4, one can see that the insulating portion is much thicker than any other layer in the composite. The thickness of the "second lofted area" is equated to Applicant's "first thickness of a first dimension" and "second thickness of a second dimension". The *skin* 16, equated to Applicant's "second compacted area", has a thickness of 0.25 – 10.0 mm (page 3, [0034]). The thickness of the "second compacted area" is equated to Applicant's "third thickness of a third dimension". In summary, the *insulating portion* 14, or "second lofted area", is the thickest layer in the composite.

As to claim 9, Tilton teaches that the composite can be used to insulate an environment such as a passenger compartment of a vehicle from the heat and sound generated by the components of that vehicle during its operation (page 1, [0002]).

As to claim 1, Tilton teaches that *first facing layer*, or "second structural layer", can

Art Unit: 1771

comprise glass mats, polymer mats and blended mats (page 4, [0042]). It should be noted that blended mats would imply a mat made of glass fibers and polymer fibers and that typically mats, or nonwoven materials, contain short length fibers, equated to Applicant's "chopped fibers".

Tilton fails to disclose that the polymer can be polyvinyl chloride and include a heat stabilizer.

Bae is directed to stabilizer composition for polyvinyl chloride resins and to improved resistance to degradation caused by heat useful in applications such as motor vehicle components (column 1, lines 5 – 20) such as headliners (column 5, lines 50 – 55). Bae teaches a polyvinyl chloride molded article stabilized by various heat stabilizers to provide resistance to the polyvinyl resin to deterioration, discoloration, reduction in melt viscosity and embrittlement (column 3, lines 45 – 55).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use vinyl chloride as the polymer in the blended mats of Tilton with heat stabilizer as suggested by Bae motivated by the desire to use a commonly employed material for hoodliner materials which has superior resistance against deterioration, heat stability, reduction in melt viscosity and embrittlement.

As to claim 8, Tilton in view of Bae discloses the claimed invention except for that the *second facing layer*, or "first lofted area" has a thickness equal to about 3 to 25 times the thickness of the *skin*, or "first compacted area". It should be noted that the thickness is a result effective variable. For example, as thickness increases, the layer becomes more rigid. It would have been obvious to one having ordinary skill in the art at the time the invention was made to

Art Unit: 1771

create a composite with the second facing layer, or “first lofted area” having a thickness equal to about 3 to 25 times the thickness of the skin, or “first compacted area”, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). In the present invention, one would have been motivated to optimize the thickness of both the “first lofted area” and the “first compacted area” to create the “first lofted area” having a thickness of 3 to 25 times the thickness of the “first compacted area” to optimize the insulating and structural support strength of the composite.

Response to Arguments

4. Applicant's arguments with respect to claims 1 and 5 – 9 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A Boyd whose telephone number is 571-272-1473. The examiner can normally be reached on Monday thru Friday (8:30am - 6:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 1771

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jennifer Boyd

September 2, 2004


ULA RUDDOCK
PRIMARY EXAMINER